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Design dis-integration

Silent, Partial, and Disparate Design

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Abstract

Michael Porter's frameworks for analysing and planning competitive differentiation (Porter 1980, 1985) are established 'textbook' tools, widely taught to business students today. As the claim of design's strategic importance is increasingly heard, we ask where does design fit in established strategy thinking?

This paper documents a proposed conceptual model based on Porter's value chain model for strategic planning. The concept outlined is the result of the first stage of a larger study of design's potential role at strategic level and the difficulties faced by organisations in exploiting design strategically. This exploratory phase comprised a review of literature on design management and models of strategy, followed by nineteen interviews with senior design professionals. These then informed a novel revision of the value chain diagram reflecting the strategic role of design, and the identification of three key phenomena concerning design integration (silent design, partial design and disparate design). These phenomena are also represented in modified versions of the value chain.

This overall project follows a research approach based on the design research method and on procedural action research, and aims to develop a tool or method to help organisations increase design integration. This project is ongoing, and the results will be published separately.

Keywords

Strategic; value chain; silent; partial; disparate; integrated

The successful exploitation of design expertise is increasingly claimed to be important strategically, that is, in shaping the long-term future of an organisation. This is heard from both design professionals and business commentators and educators (e.g. Liedtka 2004; Nussbaum 2007), yet few studies have attempted to reconcile theoretical models of strategy with the practice of design professionals. This paper documents part of one such larger study.

The subject of corporate or organisational strategy is very broad, with many different schools of thought and competing views. This paper does not attempt to account for them all, but considers the relationship of design with Michael Porter's value chain model, a tool widely known and taught to students of business and management. Based on existing design literature and

on discussions with design professionals, the concept of 'integrated design' is proposed in which, for maximum strategic benefit, design is a resource integrated throughout an organisation, connecting and supporting all operations. This is presented here in a revision of the value chain diagram as an ideal, though according to our respondents, it is difficult to achieve in practice. Far more common is a state of design 'dis-integration'. The factors involved are complex, and only general causalities are suggested here. However, from themes emerging in the interviews, three key ways are proposed in which design is not integrated (termed silent design, partial design and disparate design). These phenomena are also represented in modified versions of the value chain.

Theoretical background

Prior to the 1980s, the 'planning' approaches to strategy were based on the analysis of measurable factors, resulting in a plan to be then methodically implemented. Michael Porter's frameworks for analysing and planning competitive differentiation (Porter 1980, 1985) built on this approach, becoming established 'textbook' tools. Porter's generic value chain describes an organisation's internal environment in terms of primary and support value activities. The value and associated cost of each are assessed with a view to maximising the former and minimising the latter.

Where does design fit in this model? Porter only recognised design in its technological sense, as a primary activity in 'operations' and 'technology development' represented as separate activities within each of these, in "their traditionally subservient role" (Lorenz, 1994, p. 75) (see figure 1).

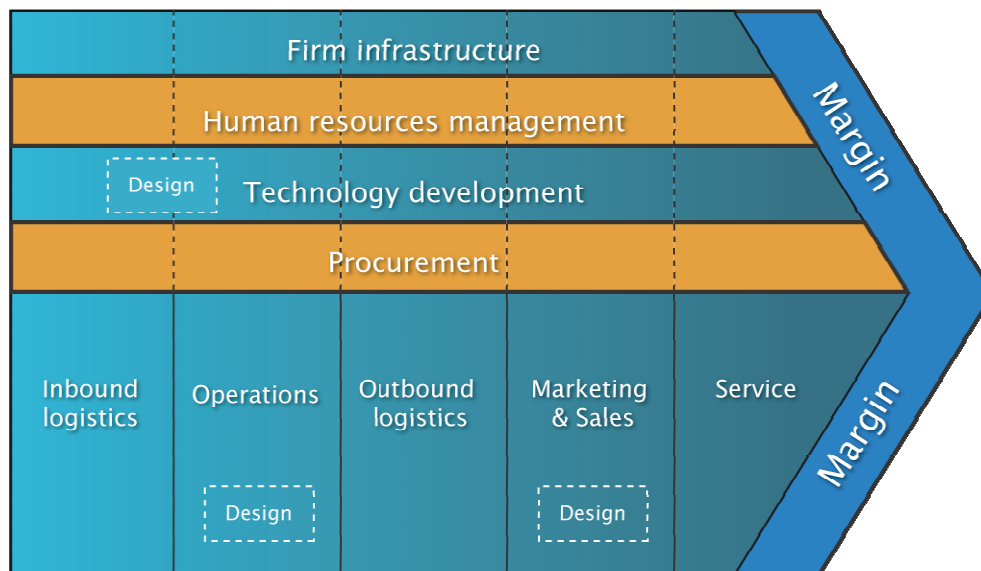


Figure 1: Design activities in "their traditionally subservient role to marketing and engineering" after Porter and Lorenz.

But Porter's view of design's role, like many others' then, was somewhat different from that found increasingly in industry today. Design's greater value is seen as resulting from an integrated effort of many areas of design specialisation (graphic, interactive, industrial etc.) concerted across operations (Kotler & Rath, 1984; Phatak & Chandron, 1989). Recognition of

design's importance to business has risen in past decades, since Kotler and Rath urged business leaders to revise their view of design as a cosmetic, decorative treatment applied late in development. Instead they should recognise how it can optimise customer satisfaction and company profitability and value, and enhance products, environment, communications and identity (Kotler & Rath, 1984). Lorenz (1990, 1994) saw the strategic benefits of industrial (product) design, but didn't examine the contributions of other design disciplines. Strategic design, he suggests, "integrates industrial design into the company... devoted to such broad activities as lifestyle research, in order to anticipate product concepts ahead of competitors" (Lorenz 1994 p. 84). A key role of product designers is as the connector between the end user and the marketing and production staff (Blaich, 1993; Lorenz, 1994). They are the best skilled for spotting trends and changes, and intuiting what consumers need and want (Blaich, 1993). Trueman and Jobber (1998) propose that design contributes in four realms: value, image, process and production. Assuming design is only about image misses out on the advantages of the other three, and of the further "product integrity" (Fujimoto, 1990) that comes with the integration across all four realms. In the terms of the value chain, an integrated design approach argues for design to be applied not just to the product but to all activities, to improve the quality, user satisfaction and even the image of the other value stages. Few academic papers have explicitly considered design's place in the value chain. In one, Borja de Morzota (2003, p. 94) finds design acts at three levels in the value chain, as simultaneously a differentiator, co-ordinator, and transformational process:

1. *"By optimizing the primary activities: design action on the consumer perceived value.*
2. *By optimizing the coordination among functions and the support activities of the firm: design as a new function in the structure that transforms the management process.*
3. *By optimizing the external coordination of the firm in its environment: design generating a new vision of the industry."*

Understanding and creating perceived value draws on the core expertise of the designer, but quantifying it in Porter's terms is difficult when much is in the intangible values of good and services (Kotler & Rath 1984), and for two other reasons. First, there are many essential contributions to the design process that come from non-designers and are unacknowledged. Gorb and Dumas (1987) coined the term *silent design* for "design by people who are not designers and are not aware that they are participating in design activity", a phenomenon that can be both detrimental and beneficial (Dumas & Mintzberg, 1991). Second, the contributions of design professionals to business success are often "invisible and rarely acknowledged", enhancing performance in "associated 'non-design' areas where they are not considered to have any interest, let alone competencies" – a sort of 'silent design in reverse' (Alan Topalian, personal communication, January 24 2007).

We have seen that the strategic value of design includes contributions from all design disciplines, beyond just industrial design within production. Designers can implement a firm's strategy by creating "ideas, products and product positions for a world where people's buying decisions are influenced by

emotion, fashion and context.” (Francis 2001). Successful design-led companies apply and integrate design values to all aspects of the business, internal and external to really understand their customers, and forge a unique relationship with them. This applies for both ‘high design’ and cost-led brands. An integrated, holistic use of design is valuable in positioning and differentiation, and in shaping competitive forces.

All these contributions are difficult to quantify, but a descriptive conceptual model may still be useful. Considering this view of design as an integrator and a co-ordinator both externally and among secondary and primary functions, a revised model of the value chain is proposed here including a holistic design function as a secondary (support) activity, which spans the breadth of the operation (figure 2).

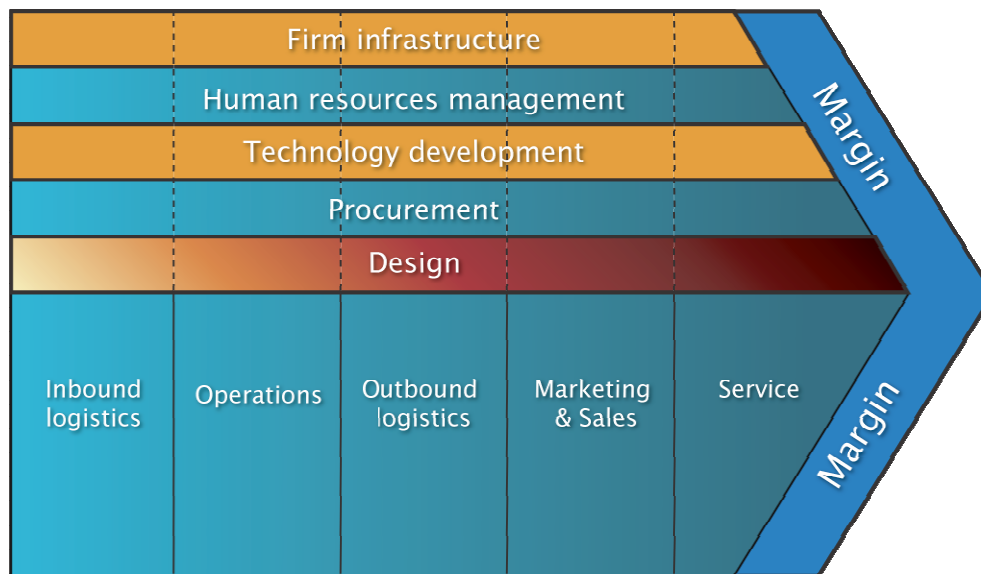


Figure 2: The aspiration: design as an integrated support activity in the value chain, spanning all primary operations.

Methodology

To canvass opinions around design’s strategic potential, semi-structured interviews were conducted with nineteen respondents, all senior professionals in the design industry, from fourteen organisations: six design service providers (product design and full-service), four firms that use design extensively (in-house or bought in), and four firms of design consultants or advisors (see table 1). Several of the firms discussed have world-wide reputations for design excellence and are well-known consumer brands. Respondents were approached primarily for their seniority and experience in designing or design management, being in positions considered by the researcher to afford an informed view of the relationship between design services and high-level decision makers. Other important sampling constraints were location in the UK, and willingness to participate.

The topics outlined above were raised with open questions at first (e.g. “Can you tell me about how design is used in your/your client’s firm?”). In this way interviewees were encouraged to speak widely about their experiences then questioned more specifically, seeking to understand how design is regarded

by business leaders and the difficulties and complexities faced in integrating design strategically.

All interviews were recorded, transcribed and coded to identify common themes, concerns and recurring practices. Although part of a longer study, the results were integrated with insights from literature to propose (i) a novel interpretation of the value chain reflecting the strategic role of design, and (ii) representations of three key phenomena identified from the interviews, described in the next section.

Firm / Organisation		Respondent / Position	
A	Product design and development consultancy (US & Europe)	1	Marketing and Strategy Director
B	London product design and development consultancy	1	Director of Product Strategy
		2	Business development manager
		3	Senior partner
C	Inter-continental airline company	1	Head of Design
		2	Deputy Head of Design
D	Europe-wide wireless, mobile and broadband operator	1	Director of Product Experience (mobile operations)
E	Publicly-funded design research and advisory centre.	1	Deputy Chief Executive
		2	Programme Development Manager
		3	Design mentor / associate
F	Product design and development consultancy (<10 employees)	1	Designer / senior partner
G	Global phone & electronics manufacturer.	1	Head of Consumer Experience Design (mobile devices, Europe)
H	Multinational architecture, engineering and design practice	1	Senior architect
I	Freelance	1	Self-employed product design engineer of 12 years

Firm / Organisation		Respondent / Position	
J	Design strategy consultancy	1	Director (designer and strategist). Former director of Design and Innovation at design research and advisory centre (E)
K	Design & innovation strategy consultancy	1	Director
L	Internal Communications consultancy	1	Communications consultant
M	Global mobile phone manufacturer	1	Head of Multimedia Design
N	Freelance commissioned to design domestic electrical product, winner of IDEA Gold Award 2007 (consumer products)	1	Self-employed product designer / engineer

Table 1: Participant firms and respondents

Key findings

There is an established consensus that strategic design requires (and is defined by) a holistic and integrated use of design. All interviewees expressed concerns about attitudes and practice affecting this integration, from which (with empirical and industry literature) three important themes emerged, concerning design integration, or lack of it:

- **Partial design:** design is only used to a limited degree, such as in superficial cosmetic styling of a product, or in marketing communications.
- **Disparate design:** design activity may be widespread throughout all operations, but is not co-ordinated holistically to realise its synergistic potential.
- **Silent design,** as defined by Gorb and Dumas: design by people who are not designers and are not aware that they are participating in design activity.

Whereas 'silent design' is a term already in currency, after Gorb and Dumas (1987), 'partial design' and 'disparate design' are newly coined by the first author. All three are described below, and represented in variations of the integrated design value chain of figure 2. For brevity only sample quotations are included.

Partial Design

Design may applied in some operational areas only, although it may be used extensively and expertly within them. For example, a firm may use packaging and product design to a great effect, while omitting or under-utilising design in other areas, such as its advertising or web site, or workplace design. Perhaps more seriously, it may fail to properly connect customer needs with the firm's technologies or capabilities. This may be a costly mistake, resulting in a

functional product, nicely styled but lacking any real value in the eyes of the consumer. Design effort might be consistent but is not complete. This situation here termed partial design, and represented in Figure 3.

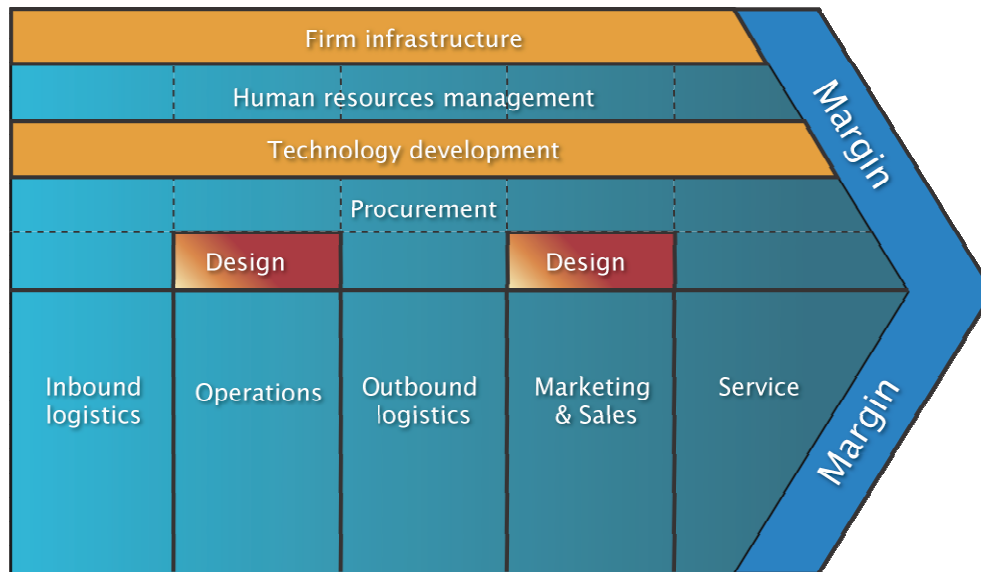


Figure 3: Partial Design: design is only used to a limited degree (e.g. shown here supporting Operations and Sales)

Respondents described frustration at the detrimental effect of a strong product let down by a weak link in the overall system:

"We had a fantastic (mobile) e-mail service... (but it) took eighteen separate web pages for anyone to register for. So no one ever did! What was the point of developing this brilliant service?" (D1)

In the view of one respondent, partial design is likely to occur as a firm matures towards an integrated design approach: design activity is recognised and managed in one or two operational areas, then spreads as its value is recognised:

"It becomes contagious: ...someone brings design in, probably to attack a certain piece along (the value chain). So, if we're talking about Marketing, it could be that they use a design agency or a creative agency to do some work there, and it pays off, they see the strategic value of it. And then someone they work with, over in Operations says "that's very interesting, you got that benefit from it. I wonder..." And then you have a contagious effect, so it's almost a prototype for (a fully integrated design model) before it exists." (M1)

The gradual extension of the design activity towards a fully integrated model may, he suggests, result from territorial expansion by individual design managers:

"They decide to put in a Head of Design who has responsibility for two (sections), and that person starts trying to eat more territory because they realise that this is better integrated than separated. And they also recognise it's a capability strategy function, not a delivery function... they won't give it a place on the board but they realise it's significantly powerful... They will start to have proper planning, they might employ

design managers, they'll change the procurement process and other things to make design more easily absorbed by the business. And in some companies they'll start to invest in building their own capability in-house.” (M1)

Disparate Design

Interviews suggest there may be instances where design is applied appropriately in the whole operation chain, more completely than in partial design. However, this is without full co-ordination and integration with other operational areas, or indeed between these design activities. Design effort is complete but not **consistent**. Such a situation, termed **disparate design**, is represented as a broken bar in the value chain (figure 4).

“Organisations are institutionally unable to perceive and manage what their customers think. Because the customer goes on that journey, and no-one takes responsibility for actually stitching things together. Everybody is working vertically on their only little bit... and certainly not incentivised to create a holistic, horizontally flowing, wonderfully satisfying experience” (D1)

“Particularly in the world of products... the marketing people have got to interact and interface with someone from their technology departments. And that usually involves creative designers, engineers, technologists in the feasibility assessment and strategy and the definition of whatever the trade-offs are to make something feasible, exciting in terms of the marketplace and bring those together.” (B1)

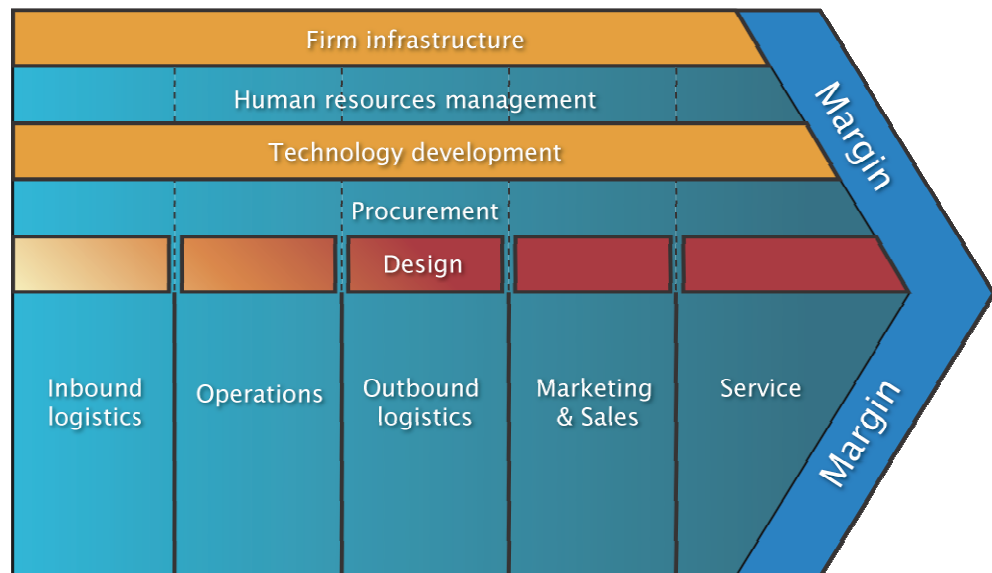


Figure 4: Disparate design activity may be throughout all operations, but is inconsistent or not co-ordinated.

Silent Design

The interviewees’ descriptions suggest silent design is connected to cultural awareness of the potential impact of poor design decisions, and to individuals recognising their own limits of design expertise:

"Most people who run a business can read a balance sheet. They may even be able to get their heads around contract law. But they know when they're at the limits of their knowledge, when to call in the professional. And the challenge we're facing is not enough (people) understand design." (E1)

Another issue is that the control and reduction of unskilled design may be traded off against de-centralised decision-making and an empowered workforce. It is also reasonable to assume a connection to the availability of design resources, though not safe to assume that availability always ensures its appropriate use. It is represented in the value chain as an erosion effect on design's support role (figure 5).

"It sticks out a mile when someone's doing it. We're always accused of being control freaks but you do need to control it very tightly. It's very good (here) within the UK because people know who we are, respect us, and understand it's not their remit. We've got some great working relationships with other departments. So, although it's political, people do understand and have an awareness of whose role it is to do the design within all areas of the company." (C1)

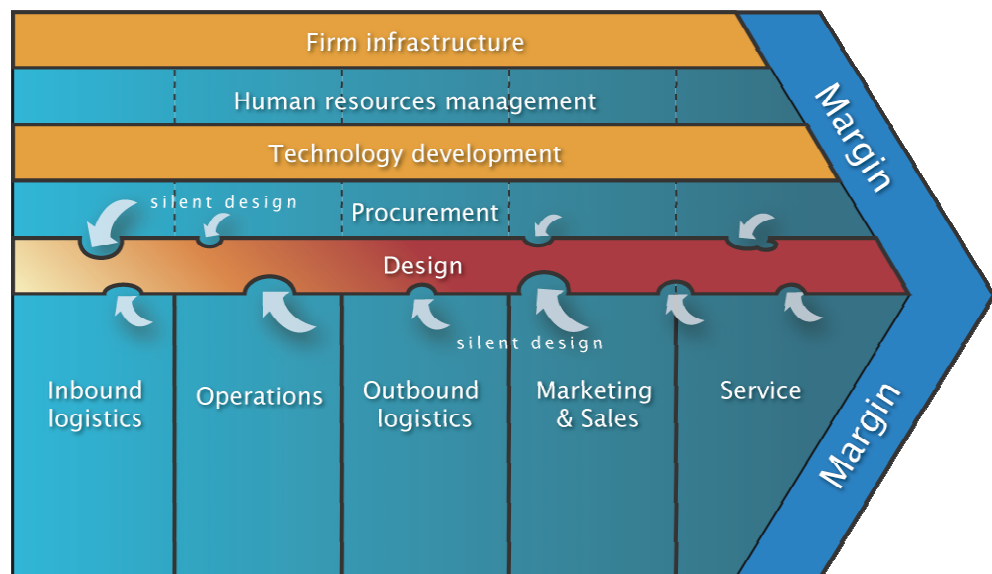


Figure 5: Silent design undermines integrated design effort.

Conclusions

It might be claimed that an integrated design approach is desirable for the competitive advantage it brings, yet there are myriad factors which impede or diminish the effective strategic exploitation of design. Discussions around the novel re-interpretation of Porter's value chain demonstrate the difficulties faced in successfully managing design at a strategic level, but also elicit useful insights into design's role. Many challenges and frustrations were expressed about firms that are highly regarded for their use of design; they appear to have sophisticated design management in place and consider design a fundamental strategic resource. The phenomena termed silent, disparate and partial design may occur to varying degrees in a firm, and may indicate its maturity towards a fully integrated (complete and consistent) use of design. It

is hoped then that these terms and representations provide meaningful and useful descriptive distinctions, as well as a foundation for the next phase of this study.

These findings are part of a larger endeavour, the development of an intervention tool to help organisations assess their level of design integration. The background research, the diagrams arising from it, and others not presented here have all informed the development of a tool currently under trial. Trials so far are encouraging, and further details will be published separately.

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